

## **THE IMPORTANCE OF DATA VISUALIZATION: INCORPORATING STORYTELLING INTO THE SCIENTIFIC PRESENTATION**

A. Babiak-Vazquez<sup>1</sup>, A. N. Cornett<sup>1</sup>, M. L. Wear<sup>1</sup>, and C. Sams<sup>2</sup>

<sup>1</sup>Wyle Science, Technology and Engineering Group, Mail Code Wyle45-OPS, 1290 Hercules Drive, Houston, TX 77058, [adriana.e.babiak-vazquez@nasa.gov](mailto:adriana.e.babiak-vazquez@nasa.gov), and <sup>2</sup>NASA Johnson Space Center, Mail Code JSC- SD245, 2101 NASA Parkway, Houston, TX 77058.

### **INTRODUCTION**

From its inception in 2000, one of the primary tasks of the Biomedical Data Reduction Analysis (BDRA) group has been translation of large amounts of data into information that is relevant to the audience receiving it. BDRA helps translate data into an integrated model that supports both operational and research activities.

This data integrated model and subsequent visual data presentations have contributed to BDRA's success in delivering the message (i.e., the story) [1] that its customers have needed to communicate [2]. This success has led to additional collaborations among groups that had previously not felt they had much in common until they worked together to develop solutions in an integrated fashion.

As more emphasis is placed on working with “big data” and on showing how NASA’s efforts contribute to the greater good of the American people and of the world, it becomes imperative to visualize the story of our data to communicate the greater message we need to share [1,2].

### **METHODS**

To create and expand its data integrated model, BDRA has incorporated data from many different collaborating partner labs and other sources. Data are compiled from the repositories of the Lifetime Surveillance of Astronaut Health and the Life Sciences Data Archive, and from the individual laboratories at Johnson Space Center that support collection of data from medical testing, environmental monitoring, and countermeasures, as designated in the Medical Requirements Integration Documents. Ongoing communication with the participating collaborators is maintained to ensure that the message and story of the data are retained as data are translated into information and visual data presentations are delivered in different venues and to different audiences.

### **RESULTS**

We will describe the importance of storytelling through an integrated model and of subsequent data visualizations in today’s scientific presentations and discuss the collaborative methods used. We will illustrate the discussion with examples of graphs from BDRA’s past work supporting operations and/or research efforts.

### **REFERENCES**

- [1] Denning S. (2007) *The secret language of leadership*. San Francisco: John Wiley& Sons, Inc. [2] Reynolds G. (2008) *Presentation zen: Simple ideas on presentation design and delivery*. Berkeley: New Riders.